

NEWSLETTER NOUVELLES OF THE MINERALOGICAL DE L'ASSOCIATION ASSOCIATION OF CANADA MINÉRALOGIQUE DU CANADA

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EDITORIAL

ON THE FUTURE OF EARTH SCIENCES

I HAVE recently been asked to comment on the state of Earth Sciences in Canada by several organizations. Being a pessimist, I believe things are bad and getting worse. For at least a decade, spokespersons for the Earth Sciences have tried to convince people that Earth Sciences are important to Canadian life and to the well-being of Canadians. We have invoked the importance of Earth Sciences to the discovery and exploitation of natural resources. We have also pointed to the multidisciplinary approach of our sci-



FOR reasons beyond our control, the June and December 1998 issues of the Newsletter are late. We have received countless messages and notes asking about the Newsletter. We apologize for the inconvenience this may have caused you. We have taken steps to get back on track with the arrival of a managing editor to help the editor.

The December 1998 Newsletter will be mailed with the next issue of *The Canadian Mineralogist* and June 1999 will be mailed in early summer.

ence, citing Earth systems science as a unifying concept. Both arguments have been unsuccessful in augmenting the stature and funding base for our science. Evidence for this position includes the results of the last two reallocation exercises by NSERC. The Earth Sciences have the dubious distinction of having been cut twice in succession by these exercises. NSERC transferred money from the Earth Sciences budget to the

other sciences. The report of the reallocation committee is available on the web. The committee criticizes the Earth Sciences for asking for money to support research directed toward resource exploration and exploitation. The report points out that the petroleum and mining industries both are mature industries and do not need basic research support. Whether this is true or not, the fact is the people controlling the money think so and will act

as if it is true. The committee report contains only indirect discussion of Earth systems science. The committee report on the Earth Sciences proposal stated "Unfortunately, the description is too general and, as referees noted, it failed to provide a compelling view of emerging areas and priorities for the future."

Other evidence of the crisis in the Earth Sciences includes the downsizing of the Geological Survey of Canada (GSC) and the lack of replacements for retiring mineralogists and petrologists in our universities. The GSC is re-evaluating its mandate and is asking, through the Canadian Geoscience Council, for comments, directions, ideas, and suggestions from the Earth Sciences community. Mineralogical and petrological positions in the universities, if filled, are going to other kinds of Earth scientists. At the IMA meeting, I was struck by the predominance of older, graying delegates; younger people were conspicuous by their absence.

I suggest that the Earth Sciences are not held in high regard by some important people outside the Earth

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This newsletter constitutes an insert to
The Canadian Mineralogist, Volume 36, Part 6

Sciences. The Bre-X affair is a case in point. The ultimate reason the fraud could be perpetuated was bad geology, especially petrology and mineralogy. No geologic maps were ever published, nor was a mineralogical study done. The efforts to prevent future fraud do not even include Earth Sciences controls (at least my reading of newspapers has no reference to such controls). Rather, watchdogs in the stock exchanges will set up rules, etc. One can continue in this vein with examples from the conflict between environmental concerns and resource development (e.g. Voisey Bay) or waste disposal (Yucca Mountain nuclear waste storage). The Earth Sciences have been associated with the "wrong" side of environmental problems for so long that militant environmentalists look on our science with suspicion.

I have several questions:

» Is my view that Earth Sciences in general, and the mineralogical sciences in particular, are in a crisis situation held by the members of the Association? I think some people hold the same opinion from the few comments that I have received about my views. I do, however, need the ideas and comments of many members not just a few. If, you the members, don't agree with me, I can at least keep my mouth shut when representing the Association.

» If the science is in trouble, then what can be done? We can drop the traditional ineffective arguments (resource based reasons) for being important. But what can be put in their place? The arguments will have to convince politicians and other movers and shakers in the community. Beyond this one guideline, I'm hard pressed to come up with anything more.

» Plans for the meeting in Calgary in 2000 contain proposals for sessions on the future of Earth Sciences. MAC can have a large or small part in these discussions. What should our contributions be?

You can send me your comments and views at:
Department of Geology
and Geophysics
University of Calgary
Calgary, Alberta
T2N 1N4 Canada
e-mail:
nicholls@geo.ucalgary.ca
Phone: 403-220-7127
Fax: 403-284-0074

I look forward to hearing from you. ■■

Jim Nicholls, president

FROM THE MANAGING EDITOR

NEW FORMAT, NEW EDITOR, NEW FEATURES

I AM delighted to take over as co-editor of the Newsletter along with our vice-president Brian Fryer. I hope the new format of our Newsletter meets with your approval. I am looking forward to receiving your feedback and suggestions to improve it. Rest assured that it is less costly to produce than it was with the previous format. The new format also allows for greater variety and interest in the lay-out. I also plan to introduce many more visuals. In this issue, you will find the following features that should come back in every issue:

ASSOCIATION NEWS Of course, keeping you informed on what is happening in the Association is the primary purpose of the Newsletter. And we have a lot of catching up to do in this issue and in next one!

MEMBERS IN THE NEWS You have received an outstanding award or you know a MAC member who did? Let us know about it and send us the citation of the award. You have managed to bring your science to the media? Send us a newspaper clipping and tell us how you did it.

CONFERENCE REPORTS/ MEMBERS ON THE MOVE You have been to a great conference half-way across the world or perhaps across town? Share your impressions. You have gone to a unique field trip in Madagascar, in Russia? Write about some highlights or a report of your trip.

As I settle into this new position, I plan to introduce new features in the near future or revive old favorites.

MUSEUM NEWS I would like to continue this very successful feature started by Fred Wicks a few years ago. So if you are a museum curator, please send us a write-up and a few pictures of your museum.

MEMBERS FORUM Here is your chance to ask questions about your association, to give a pat on the back for a job well done or to make suggestions on how we can best meet your needs.

DEBATING ISSUES In this issue, the editorial of our president and our article from the Canadian Geoscience Council both deal with the future of Earth Sciences. Both solicit your views. Do you think our president is too pessimistic? What can the mineralogical community do to show the importance of mineralogy and geochemistry to the other sciences? As our membership is truly international, perhaps we

ASSOCIATION NEWS

THE past year has been one of change and new initiatives. The Association sponsored the very successful IMA Meeting in Toronto last August, initiated the scholarship program for the Mineralogical Association of Canada Foundation, awarded its first Young Scientist Medal and redesigned and modified the Association's web page. In addition, several new publications are available, thanks to our tireless editor, Bob Martin. Read on.

HIGHLIGHTS OF THE MAY 1998 COUNCIL MEETING AND GAC-MAC MEETING

■ The May Council meeting was held prior to the GAC-MAC annual meeting in beautiful Quebec City. New councillors for 1998-2000, Jonathan Fowler, Dante Canil and Yuanming Pan were welcomed. Brian Fryer,

councillor from 1992-1994, was back on Council as vice-president. Mati Raudsepp and Gina Lecheminant accepted to continue respectively as treasurer and secretary of the Association.

■ Council approved the recommendations of the scholarship committee of the Foundation for the terms of reference for awarding a \$10 000 scholarship for a graduate student involved in a M.Sc. or Ph.D. thesis program in the fields of mineralogy, crystallography, geochemistry, mineral deposits and petrology. Since then posters and flyers have been sent to all geology departments across Canada and ads have been placed in *The Canadian Mineralogist*. Note the deadline to apply for this award is May 1st.

■ Dante Canil took over from Adrienne Larocque as short course coordinator. In

this position, he evaluates topics for short courses, looks around for organizers, and coordinates with other associations to avoid overlap.

■ Upon recommendation from our finance chairman, Norm Halden, the membership fee structure for 1999 was set at \$90 for ordinary members and \$340 for corporate members.

■ Council gave the green light to Robert Martin for the publication of a booklet compiling all the IMA reports on nomenclature of minerals, to be available in time for the IMA meeting.

■ A publication committee was struck to evaluate proposals that come in for their feasibility and to develop a business plan for each new publishing project we embark on. Members of the committee are Robert Martin, Roger Mitchell, Norm Halden, Pat Sheahan, Dante Canil and Pierrette Tremblay.

■ The short course on mineralized skarn systems sponsored by MAC was a resounding success. It drew 65 attendees, from as far as New Zealand. Many thanks to Dave Lentz for his hard work in organizing and running this short course and to John Jambor for his masterful editing of the short course volume published to accompany the course. The short course complemented a well-attended special session

on *mineralized hydrothermal skarn systems* and a post-meeting field trip to the Gaspé Cu (-Mo) porphyry skarn deposits.

■ One of the highlights of the conference was the MAC annual luncheon. The Past President's Medal was awarded to Fred Longstaffe, the Hawley Medal for the best paper published in *The Canadian Mineralogist* in 1997 to Frank Hawthorne, the Berry Medal for distinguished services to the association to Dorian Smith. The first recipient of the brand new Young Scientist Award was Peter Burns. Congratulations to all these talented scientists! A special presentation was also made to Jerry Remick, one of the longest standing members of our Association and the person behind our logo.

HIGHLIGHTS OF THE OCTOBER 1998 COUNCIL MEETING

■ Councillors ending their three year term, Don Baker, Pierrette Tremblay and Dan Kontak, were thanked for their services to the Association.

■ The nominating committee proposed the following councillors for 1999-2001: Pierrette Tremblay (renomination), Larry Heeman from University of Alberta and Peter Burns from Notre-Dame University.

can benefit from the experience of colleagues from other countries. So we look forward to publishing some of your views in this new feature.

SPARKS This feature of the Public Awareness of Science Committee should come back with the next issue and present you with interesting ideas for outreach.

I look forward to receiving your comments and your contribution at mac_amc@hotmail.com

In closing, I remind you that we are a bilingual organization and that you can submit your texts in English or French

Pierrette Tremblay
Managing editor

Iain Samson has accepted the nomination of finance chair. Special thanks were given to Norm Halden for having chaired this Committee for over a decade. It is largely due to his vision that the Association owes its good financial health.

A committee was also struck to review the outreach and publicity activities of the Association.

SHORT COURSES COMING UP

MAC will ring in the new millennium at GEOCANADA 2000 in Calgary with a short course on *Fluid Flow in Sedimentary Basins*, to be organized by Kurt Kyser. This course will attract students and academia as well as geoscientists from the oil and gas sector in Calgary. Other proposals for GAC-MAC 2001 in St John's are *Laser Ablation - Inductively-Coupled Plasma Mass Spectrometry (LA-ICP-MS): Techniques and Geoscience Applications*, to be organized by Paul Sylvester and Henry Longgerich, and *Inorganic Geochemistry of Sediments and Sedimentary Rocks*, organized by David Lentz. More proposals for St. John's or any upcoming GAC-MAC meetings are welcome and can be directed to the MAC Short Course Coordinator (D. Canil, School of Earth and Ocean Sciences, University of Victoria, tel.: 250-472-4180, fax: 250-721-6200 e-mail: dcanil@uvic.ca ■

IMA SHORT COURSE

MAC, together with the Commission on Ore Mineralogy (COM/IMA), the Canada Centre for Mineral and Energy Technology (CANMET), the Geological Survey of Canada (GSC), and the University of Guelph, helped sponsor a Short Course on *Modern Approaches to Ore and Environmental Mineralogy*, which took place at CANMET and GSC during the period 3 to 7 August, 1998 and at the University of Guelph on 8 August. Besides the lectures, numerous laboratory sessions were held, which covered many subjects of relevance to ore mineralogy such as ore microscopy, cathodoluminescence, variable pressure SEM, electron microprobe, image analysis, SHRIMP, SIMS, and micro-PIXE. There were 25 persons registered for the course and 13 lecturers. The registrants and lecturers were well-balanced between industry (11), universities (16) and government organizations (11), and came from across Canada and around the world. The geographic origins of the participants were Argentina (1), Australia (2), Brazil (1),



MAC thanks Louis J. Cabri and David J. Vaughan, short course organizers, John Jambor, editor of Short Course volume 27, and all the lecturers for their dedication and hard work.

Canada (23), Italy (1), Korea (1), South Africa (1), Russia (1), United Kingdom (5), and United States (1). The COM has been invited by the Mineralogical Society of South Africa to help organize a similar course in Pretoria, in September 1999 (for information contact Dr. T. Cloete, e-mail: mcloete@geoscience.org.za) and there is the possibility of holding another COM course in Northern Europe in 2000.

The course notes have been published as Volume 27 of the Mineralogical Association of Canada's Short Course Series. The 421 page book is available for purchase at \$48.00 from the MAC office. It is dedicated to the memory of the late Norman Henry for his important work in quantitative ore microscopy and his strong support of the COM.

Submitted by Louis J. Cabri

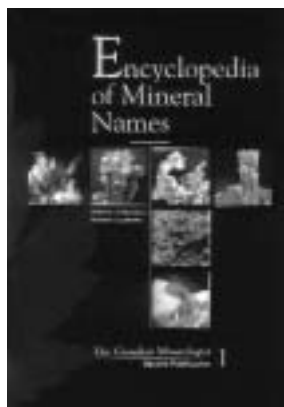
FEATURE ARTICLE

Highlighting our New Publication Venture: the Special Publication Series of *The Canadian Mineralogist*

This new series of publications was designed to provide reference books of broad interest to all involved in the study of minerals and at reasonable cost. It is the brainchild of our editor Robert F. Martin (as if he was not busy enough editing *Can. Min.*).

SP-1 ENCYCLOPEDIA OF MINERAL NAMES

Our first publication in this new series *Encyclopedia of Mineral Names* was launched at Ottawa 97. (See newsletter 56, page 9). Since then it has been reviewed in many journals. Here are a few excerpts of what reviewers had to say.



A book that should be on the shelf of any serious collector... Easy to follow, well-researched, up-to-date, and authoritative.

Quintin Wight, *The Mineralogical Record*, vol. 28, Sept.-Oct. 1997

...An important and informative reference for anyone who is professionally engaged in mineralogy, petrology and materials science. Libraries should make sure they have this useful compilation.

...The visual and esthetic appeal of a "coffee-table book" with an immense amount of very useful information contained in it.

Cornelis Klein, *Economic Geology*, vol. 92, 1997

Be warned... that this book is addictive: if you pick it up seeking a specific reference, you will have trouble putting it down again.

Mark N. Feinglos, *Geoscience Canada*, vol. 25, no 3

...A book that I can recommend virtually without reservation to anyone interested in minerals

Anthony R. Kampf, *Gems and Gemology*, summer 1998

...A handy reference to chemical formulae and space groups... A fine gift for the mineralogist on your holiday shopping list.

Alan E. Rubin, *Meteoritics and Planetary Sciences*, 33, 1998

...A wealth of carefully researched information, far more than the title suggests.

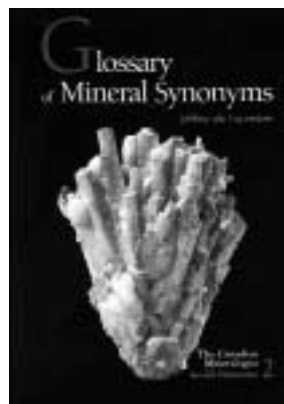
Robert E. Cook, *Rocks and Minerals*, May/June 1998

So if you have not got your copy of this excellent reference book, don't wait any longer. An update of corrections and new minerals approved since its publica-

tion will be published in *Can. Min.* August 1999 in order to keep the book current.

SP-2 GLOSSARY OF MINERAL SYNONYMS

The second publication in this series came out just in time for the 1999 Tucson Gem and Mineral Show and was well received by the mineral collecting community at this big event.



In this authoritative work, the author, Jeffrey de Fournestier, has combined his training as a linguist and historian with his passion for mineralogy. He has scoured the literature world-wide to provide an exhaustive listing of mineral names used throughout the ages and in various languages, along with the equivalent IMA-approved name of each mineral species.

Many years of detective work in visiting museums all over the world and in tracking obscure references are distilled into the *Glossary of Mineral Synonyms*. With more than 35 000 entries, this 448-page edition represents a seven-fold increase in the number of entries over the first edition, published by the author in 1994.

This book incorporates the vocabularies of the gem trade and industrial minerals (including artificial stones and clay minerals). It also features listings of inadequately described, unnamed and unknown minerals, by chemical composition, general description, phases, "minerals", location. It features the sketches of Russian artist Gregory Y. Ivanyuk, and is up-to-date with respect to IMA nomenclature.

This compilation will be invaluable to both the amateur and professional mineralogist and gemologist, and to all those who come to grips with obsolete terminology. No library reference section can afford to be without it! The cost is US\$50 for orders from the U.S.A and overseas and CDN\$50 for orders from Canada. Shipping by surface mail and handling are included.

Some comments:

...this 448-page glossary will provide a helpful tool and quick reference to all friends of mineralogy, museum curators, gemologists and researchers in mineralogy.

Hugo Strunz

Useful and easily-read guide.. Gemologists and collectors will find it worth buying.

J. of Gemology, vol. 25, 1997

A god-send !

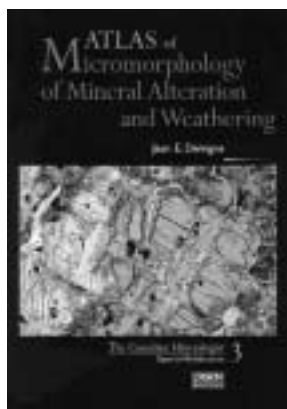
George Robinson

The usefulness of this book to the collector is beyond question... Solved all my mineral synonym questions at once.

Quintin Wight, *Can.Min.* 34, no3, 1996

SP-3 ATLAS OF MICROMORPHOLOGY...

Atlas of Micromorphology of Mineral Alteration and Weathering made its debut at an international soil scientists meeting in Montpellier in August 1998 where all the



copies available sold in a matter of hours. Jointly published with ORSTOM, France, it lavishly illustrates all the steps of weathering from incipient replacement along

cracks to complete replacement by secondary minerals. Each of the 610 color photographs (8 x 12 cm) from the author's extensive collection is accompanied by a detailed caption.

In his book, the author, Jean Delvigne, patiently distills the work of a lifetime – mostly in Côte d'Ivoire, Democratic Republic of Congo and Brazil. He successfully bridges the gap between petrological sciences and the soil sciences, with mineralogy as a common thread. He provides a good overview of the main problems of weathering, and specifically provides insight into the way parent minerals weather, the nature of weathering products, and their variability in a vertical profile and in a lateral sequence. He deals with problems of classification, description and origin of altered rocks and indurated materials derived from them, and proposes the vocabulary needed to communicate findings in this field. He provides new insight into the diverse paths that high-temperature rocks take to adjust to their new surroundings near the Earth's surface.

This textbook and reference manual is a must for a broad spectrum of scientists interested in the weathering and alteration of minerals – soil scientists, agronomists, environmental mineralogists and economic geologists. This hard-cover, 495 pages, book is available from the Mineralogical Association of Canada at a cost of US\$125/CDN\$170. ■

CONFERENCE REPORTS

Report on an international workshop on the health effects of chrysotile asbestos: contribution of science to risk management

Background

THIS workshop on *The Health Effects of Chrysotile Asbestos: Contribution of Science to Risk Management*, funded by the Quebec Government, was held in Montreal, September 14-16, 1997. The meeting was arranged by Dr. Robert Nolan of the Environmental Sciences Laboratory, Brooklyn College of the City University of New York. The Organizing Committee was composed of Art Langer, USA, Robert Murray, UK, Luciano Mutti, Italy, Chris Wagner, UK and Fred Wicks, Canada. The workshop was sponsored by the Mineralogical Association of Canada and the Mineralogical Society of America.

The workshop

The purpose of the workshop was to give a comprehensive overview of the health effects of asbestos and was composed of a representative selection of papers on topics from mineralogy, exposure studies, cancer studies, the role of simian virus 40 in amphibole related cancers, mining and milling cases, and risk assesment. I welcomed the delegates to the meeting as MAC and MSA's representative and chaired a session. Many of the papers were reviews of the current state of knowledge, and others were presentations of current work.

The conference opened and closed with papers on mineralogy. It soon became clear that asbestosis has been eliminated as a major health problem by modern methods of dust control and air filtering systems (although this still can remain a potential problem in some developing nations). Clearly the lungs can be destroyed by long term exposure to dust of any kind, asbestos, quartz, coal, cotton lint, smoke etc. It also emerged that amphibole asbestos, crocidolite, amosite, tremolite and anthophyllite, were closely linked to lung cancer (particularly amongst smokers) and mesothelioma. Because of this, amphibole asbestos is no longer used or produced. However, it still remains in the environment. The fact that the simian virus, accidentally transferred to humans in polio vaccine, may act in combination with amphibole asbestos to produce mesotheliomas, illustrates the complexity of these problems.

In contrast to amphiboles, chrysotile asbestos is hardly a hazard under controlled usage and environments. When drawn into the lungs chrysotile fibers are moistened, coagu-

lated into larger aggregates and expelled. Finer chrysotile fibers that get deeper into the lungs are dissolved and destroyed by fluids into the lungs. This does not happen to amphiboles; once in the lung the amphibole fibers stay there, continually damaging the tissues around them and eventually producing disease.

One of the long term problems of the use of the chrysotile asbestos produced from the mines in the Eastern Townships of Quebec is that the workers have tremolite asbestos fibers in their lungs and few chrysotile asbestos fibers. As tremolite and chrysotile asbestos occur in geochemically distinct environments, their occurrence together in Quebec asbestos has always been puzzling. The problem was confounded by the official policy of the mining companies that there is no amphibole in their mines. This long term problem was solved in the final paper of the conference by Dr. Anthony Williams-Jones and Charles Normand at McGill University.

In an enlightened move J.M. Asbestos funded Dr. Williams-Jones to study the distribution of tremolite in the Jeffrey Mine, at Asbestos. Tremolite asbestos veins do occur in the rodingitized granitic dykes at the Jeffrey Mine. When the dykes are large they are obviously rejected as waste. However, as the host serpentinite is cut by intense shear zones, the tremolite-bearing rodingites are often broken up in small bodies mixed in with the chrysotile asbestos-bearing serpentinite and mined as ore. Dr. Williams-Jones is developing methods to easily identify these zones so they can be recognized as waste and eliminated from the ore. Thus the long standing mystery was solved in a most dramatic way at the end of the conference.

This workshop presented the current state of knowledge of the health and environmental risks associated with the use and handling of asbestos. Many fields other than mineralogy were covered but this coverage serves to emphasize the central importance of mineralogy if one wants to truly understand and solve this problem.

Submitted by Fred Wicks

NOTE FROM THE EDITOR

MAC will shortly publish the proceedings of this conference.

IMA 1998

The 17th General Meeting of IMA held from August 9-14 on the beautiful campus of University of Toronto proved to be very successful. About 630 delegates representing 43 countries attended the meeting. The scientific programme – with 588 papers – received rave reviews. All social events – from the opening session at the Royal Ontario Museum to the dinner cruise on Lake Ontario – were well attended and a lot of fun was had by all. The MAC booth was an extremely popular place and it was wonderful to meet foreign members and to welcome new ones. The organizing committee under the chairmanship of A.J. Naldrett is to be commended for having run such a tight ship on behalf of MAC.

As in previous IMA meetings, the symposia and technical sessions were held between 08:30 and noon, with posters presented between 14:00 and 17:00. Slotted between these two parts of the daily program were a series of high-profile plenary lectures. Eminent speakers presented syntheses and predictions of future developments concerning a whole range of topics that emphasize the breadth and impact of mineralogy. George Rossman spoke about the color of minerals, with obvious applications to the field of gemology. James Craig (currently serving the MAC as Associate Editor of *The Canadian Mineralogist*) talked about textures of ore minerals and the tales they tell. Frank Hawthorne gave a review of modern perspectives in mineralogy. John Parise covered the developments in synchrotron powder X-ray diffraction. David Price spoke about bonding and mineral behavior. Michael Zolensky brought us up to date on the mineralogy of the solar system, and told us of current planning for future unmanned missions. Takehiko Yagi reviewed developments in mineralogy along a traverse from the crust to the core. Rod Ewing stressed the essential role of mineralogy in the design of

nuclear waste forms. Also presented as a plenary lecture was Denis Shaw's address on fractionation processes for trace elements (the Ingerson lecture of the International Association for Geochemistry and Cosmochemistry). Because everyone and students, in particular, could stand to benefit directly from the pearls of wisdom of these leaders in their respective fields of expertise, there is a move afoot to publish these plenary lectures as a future MAC publication (F.C. Hawthorne, coordinator). ■

Submitted by Robert F. Martin

MINERALOGIST IN THE NEWS

Frank C. Hawthorne

DR. Frank C. Hawthorne, University of Manitoba, was presented with the Rh Institute Foundation Award at the Fall 1997 Convocation of the University of Manitoba. This award recognizes outstanding research accomplishments by a senior University of Manitoba faculty member. The award consists of a medal presented at Fall Convocation, and the recipient delivers a public lecture preceded by a banquet. The award was initiated in 1998 and Frank C. Hawthorne is the first recipient.

OBITUARY

Mike Fleischer

IT is my sad duty to inform members of the mineralogical community that Dr. Michael ("Mike") Fleischer died on 5 September 1998 at the age of 90. In addition to his long career as a geochemist at the U. S. Geological Survey, he published abstracts of new mineral descriptions and related nomenclature matters in the *American Mineralogist* for many decades. Mike served as Chairman of the Commission on New Minerals and Mineral Names of the I.M.A. for many years. He produced five editions of the *Glossary of Mineral Species* and was the senior author of the last two editions of that book with J. A. Mandarino. The next edition, by J. A. Mandarino, will appear in February 1999, and will be renamed *Fleischer's Glossary of Mineral Species*. Mike is survived by his wife (Helen), two sons (Walter and David), Walter's wife (Candace), and his granddaughter (Ilona). Condolences may be sent to: Mr. Walter Fleischer, 7318 Hooking Road, McLean, Virginia, 22101 U.S.A. e-mail: kovacic@wcl.american.edu

Please share this sad news with other colleagues in your country.

Submitted by Jo Mandarino

Alan Douglas Edgar (1935-1998)

PROFESSOR Alan D. Edgar, a leading Earth scientist in the field of experimental petrology died on January 3, 1998. He is survived by his wife Mary, his daughter Phyllis and her husband Rob, his sons Stephen and Ian, his sister Eileen, his niece Brenda and his nephew Mitchell.

Alan Edgar was born in Scotland on July 5, 1935. He completed undergraduate studies in Geology and Chemistry and an M.Sc. in Geology at McMaster University. He obtained his Ph.D. at the University of Manchester under the supervision of Prof. W.S. MacKenzie. Dr. Edgar joined the Department of Geology at the University of Western Ontario in 1963 as a lecturer and reached the

rank of full professor in 1978. He was a Visiting Scientist or Visiting Professor in many universities.

Prof. Edgar's main research interests were the nature of metasomatic processes in the Earth's mantle especially, and the origin of mafic/ultramafic alkaline magmas. Most of his research involved high pressure (up to 10GPa) experimental investigations performed in his own laboratory and at the C.M. Scarfe Laboratory of Experimental Petrology at the University of Alberta. Prof. Edgar loved to work in collaboration not only with his graduate students but also with internationally known scientists such as Dr. Felicity Lloyd (Bristol, U.K.), Dr. I.D. Ryabchikov (IGM, Moscow), and Dr. R.H. Mitchell (Lakehead University, Canada). In

the course of his research, he published more than 100 articles in refereed journals.

Prof. Edgar was a fellow of the Mineralogical Society of America and of the Geological Association of Canada. He was a member of the International Union of Geological Sciences Subcommittee on Alkaline Rock Nomenclature (1989-1996) and the Advisory Committee for the C.M. Scarfe Laboratory of Experimental Petrology. He served as Regional Editor (1990-1996) and then Associate Editor of the international journal *Mineralogy and Petrology* (Springer-Verlag). He was also editor for special volumes of *Contributions to Mineralogy and Petrology* (Water and Magma Genesis), *The Canadian Mineralogist* (the Bachinski Volume) and *Mineralogy and Petrology* (The Nick Rock volume). In 1973, he published a book on the principles and techniques of Experimental Petrology (Oxford University Press). In recognition of his many important contributions to science, a new mineral (Edgarite) was officially named in his honor in 1997.

Prof. Edgar will not only be remembered as a hard-working dedicated and prolific scientist but also as a courageous, optimistic, warm and kind man. He will be greatly missed by many. ■

Submitted by Fred J. Longstaffe

Alan D. Edgar Award in Petrology

THE Department of Earth Sciences at the University of Western Ontario has established a trust fund to create the Alan D. Edgar Award in Petrology. The purpose of this award will be to recognize and encourage undergraduate or graduate student achievements in Igneous Petrology. Professor Edgar was one of Canada's leading igneous petrologists, with particular interest in metasomatic processes in the Earth's mantle, and in experimental investigations of such research problems. Depending on the ultimate value of

the trust fund, an annual scholarship or prize will be endowed in Dr. Edgar's name.

If you are interested in contributing to this trust fund, please contact:

Fred J. Longstaffe

Department of Earth Sciences
Biological/Geological Building
The University of Western Ontario
London, Ontario, Canada N6A 5B7
Tel.: 519-661-3177/4059
Fax: 519-661-3198
e-mail:
flongsta@julian.uwo.ca

OUTSIDE NEWS

The Canadian Geoscience Council Asks for Your Comments and Concerns Regarding The Geosciences in Canada

The Canadian Geoscience Council (CGC) represents 10 000 Canadian geoscientists through their professional associations and learned societies. The Council is a good "grass-roots" source of geoscience opinion, ranging from the minerals and energy sectors through to the environmental, education and government sectors.

The CGC Executive comes from across Canada, with members from industry, provincial and federal governments, academia and consulting firms. The Council usually meets three times a year, and the next meeting will be in Calgary in June 1999. A web site is maintained and information can be obtained by logging in:

www.science.uwaterloo.ca/earth/cgc/cgc.html

Some of the things we have done in the past

The CGC has accomplished a lot during its 27 year history, and here are a few of the highlights:

- Helped to preserve the right to movement across the USA/Canada border during the NAFTA negotiations.

- Through its Professional Registration Committee, helped to spearhead professional registration of geoscientists across Canada and supported the creation of the Canadian Council of Professional Geoscientists

- Presented briefs to Mine Ministers on geoscience issues of the day



- Established the EdGEO program and the Canadian Geoscience Education Network (CGEN) that continues to be a positive force in maintaining the voice of geoscience in our schools

- Created *Careers in Geoscience*, a booklet for high school students now also available on CD-ROM and on our web page

- Provided peer review and client reviews of divisions of both federal and provincial geological surveys

- Has been influential in promoting both Lithoprobe and Canada's participation in the Ocean Drilling project, both mega projects that increase Canada's geoscience knowledge base and its international geoscience research standing

Sponsored the report *Future Challenges and Trends in the Geosciences in Canada*, known as the Barnes Report (Geoscience Canada 1995)

What we are doing Today

We are continuing our active support of the geosciences in Canada:

- Recently completed a review of Marine Geoscience activities of the Earth Sciences Sector of Natural Resources Canada; CGC is now commencing a review of the GSC's Mineral Deposits Program

- Initiated and sponsored the "Church Report" dealing with the implications for university curricula and for the requirements of professional registration and accreditation, published in *Geoscience Canada*, volume 25, number 4

- Working with the geoscience community to provide advice on the future direction of the Geological Survey of Canada, as a contribution to its Science and Technology Capacity Study, and so input into the formulation of geoscience policy at the federal level

- Polling the geoscience community for issues to be presented as briefs by CGC at upcoming Mines and Energy Ministers conferences

- Advocating support of science R&D in Canada, through the Partnerships Action Group in Science and Engineering

- Formulating a strategy for the rejuvenation of marine geoscience in Canada as part of a wider marine science research effort

- Providing advice to geoscience R&D suppliers and consumers on relevant funding opportunities

- Advocacy of Earth systems science, and the multidisciplinary approach that it entails

CGC in The Future

The Executive is working hard to broaden the base of the CGC to all sectors interested in geoscience in Canada, including the Environmental/Geotechnology, Mineral, Energy, Academic, and Government sectors. We are establish-

ing networks with government standing committees, ministries and departments, and reaching out to members of the above sectors. At the same time, we are narrowing our focus to deal with the "science of geoscience". Such issues include:

- Geoscience skills needed to be supplied by the academic sector to meet the demands of the other sectors into the new millennium

- Maintaining and building the important role of the Geological Survey of Canada and the provincial surveys in stimulating resource industry investment in Canada by the provision of geoscience knowledge and ideas

- Support the need for research at universities and in government in mineral deposit research

- Support in research for exploration and extraction of hydrocarbons

- Support research at government levels in geology as it applies to the environment and land use planning, with an emphasis in hydrogeology

- Through CGEN, support a written assessment of the state and intended future of the geoscience curricula in school boards across Canada

These are a few of the future initiatives that the CGC is planning. We need input from interested geoscientists to carry out this mandate. Please contact me at jgartnr@ibm.net or call 613-888-4567 ext. 2350

Submitted by John Gartner,
business manager of CGC

NOTE FROM THE EDITOR

MAC is a member organization of CGC. If you do send comments to CGC, please copy them to Jim Nicholls and Frank Hawthorne, the MAC representative on CGC council at frank_hawthorne@umani-toba.ca

1999 ICDD Crystallography Scholarship Recipients are Announced

THE ICDD Crystallography Scholarship Committee has selected five winners for the 1999 Scholarship program. They are: Byron DeLaBarre, McMaster University, Hamilton, Ontario, Canada; Shannon Patrick Farrell, University of Western Ontario, London, Ontario, Canada; Cora Lind, Georgia Institute of Technology, Atlanta, Georgia; Oshrit Navon, Ben-Gurion University of the Negev, Beer Sheva, Israel; K. Scott Weil (also a 1998 recipient), Carnegie Mellon University, Pittsburgh, Pennsylvania.

Byron DeLaBarre's studies focus on "Determining the Phases of a Difficult Protein Structure." Shannon Farrell's research involves Sulphur K- and L-Edge XANES of 3d Transition Metal Sulphides and Silicate and Germanate Glasses. The exploration of "New Negative Thermal Expansion Materials Related to Cubic ZrW₂O₈", will be conducted by

Cora Lind. Oshrit Navon's thesis research concerns the "Polymorphism and the Influence of Crystal Forces on Molecular Conformation." K. Scott Weil will continue his "Investigation of the Formation, Structure, and Magnetic Behavior of Compounds in the Nickel-Molybdenum-Nitride System."

J.D. HANAWALT AWARD TO HERBERT GOBEL

DR. Hebert Gobel, Siemens AG, ZT MF 7, Otto Hahn Ring 6, Munchen, Germany, received the J.D. Hanawalt Award for excellence in the field of X-ray Powder Diffraction.

This award is presented every three years for important, recent contributions to the field of X-ray powder diffraction by the International Centre for Diffraction Data. The award consists of a citation and a cash gift of \$1000.

Dr. Gobel submitted an abstract and presented a paper on the work recognized at the 47th Annual Denver X-ray Conference in Colorado Springs, CO, USA. ■

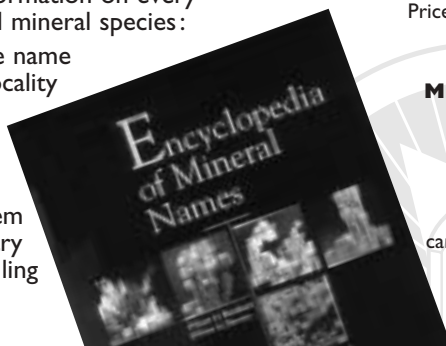
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CONFERENCES COMING UP

AUGUST 2-6 1999

The 1999 Denver X-ray Conference will be held at the Sheraton Steamboat Resort, Steamboat Springs, Colorado, U.S.A. Detailed conference information and a tentative program is available on the Denver X-ray Conference web page at <http://www.dxcicdd.com>. For further information, please contact Denise Flaherty, Conference Coordinator, ICDD, 12 Campus Blvd., Newtown Square, PA 19073-3273, phone: 610-325-9814, fax: 610-325-9823, e-mail: flaherty@icdd.com

JUNE 26-JULY 1 1999

The Clay Minerals Society 36th Annual Meeting, Purdue University, West Lafayette, Indiana. Workshop to be held on Saturday June 26th on the electrochemical properties of clays, organized by Alanah Fitch. General chair: Professor Cliff Johnston, Crop, Soil, Environmental Sciences, Purdue University, 1150 Lilly Hall West, Lafayette IN 47907-1150; phone: 765-496-1716; fax: 765-496-1368; e-mail: clays@purdue.edu

For more information on publicity, contact Patricia Jo Eberl, Manager, the Clay Minerals Society, P.O. Box 4416, Boulder CO 80306 USA Tel.: 303-444-6405 fax: 303-444-2260; e-mail: peberl@clays.org

AUGUST 22-27 1999

9th V.M. Goldschmidt Conference to be held at Harvard University, Cambridge, MA. Contact Stein B. Jacobsen, Dept. of Earth and Planetary Sciences, Harvard University, Cambridge MA 02138. Phone 617-495-5233; fax: 617-496-4387; e-mail: goldschmidt@eps.harvard.edu

MAY 26-JUNE 1, 2000

GEOCANADA 2000 -JOINT MEETING OF CANADA'S MAJOR GEOSCIENCE SOCIETIES including the Mineralogical Association of Canada, the Geological Association of Canada, the Canadian Society of Petroleum Geologists, the Canadian Well Logging Society. To be held at the University of Calgary, May 28th to June 1, 2000. ■

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Our web site is getting a face-lift and a new address, and should be greatly expanded over the next few months. It will soon be possible to place your book order or pay your membership dues directly on the web. Please change your bookmark to www.magma.ca/~canmin/ and check it often to see it grow. ■

SEE YOU IN SUDBURY!

WE look forward to seeing you in Sudbury at our joint annual meeting with the Geological Association of Canada from May 26 to 28. Three of the six symposiums will be of special interest to many of you: one organized by Dante Canil and Heather Jamieson in honour of Peter Roeder on Homogeneous and heterogeneous equilibria in magmas; the second on Advances in genetic models and exploration strategy for magmatic sulphide deposits, organized by C.M. Leshner;



and a third one on Sudbury Ni-Cu-PGE ores and their emplacement environments: where we stand after 100 years run by J. Fedorowich and A.J. Naldrett. Many special sessions also promise to be very interesting for everyone. We invite you to browse the final circular included in this mailing.

Come and make an impact! And don't forget to drop by the MAC booth in the exhibit hall! ■

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Deadline to apply: **May 1st 1999**

For more information or to request an application form contact:

Roger H. Mitchell
Department of Geology
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Thunder Bay ON P7B 5E1

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